



高级量测体系

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摘要: 高级量测体系 (AMI) 是一个用来测量、收集、储存、分析和运用用户用电信息的完整的网络和系统。文章概述了AMI技术的四大组成部分 (即智能电表、广域通信网络、量测数据管理系统和用户户内网络)、AMI的作用及其和智能电网的关系。通过广域通信网络, AMI把用户和电力公司紧密相连, 为将来配电自动化等智能电网功能的实现奠定基础。AMI实现的系统范围的测量和可视性能够大幅提升现有的电力公司的运行机制和资产管理流程。电力公司应抓住AMI技术开发和实施这一难得的机会, 规划和建立通用的满足未来系统高级应用的通信基础设施和集成信息系统, 以便提升产业和引导电网向智能电网方向发展。

关键词: 高级量测体系 (AMI); 智能电表; 通信网; 量测数据管理系统 (MDMS); 用户户内网络 (HAN); 智能电网

Advanced Metering Infrastructure

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Abstract: Advanced Metering Infrastructure (AMI) is the totality of systems and networks for measuring, collecting, storing, analyzing, and using energy usage data. This paper provides an overview of the four parts of AMI technology (i.e. smart meter, wide area communication network; meter data management system, MDMS; and home area networks, HAN), the AMI effect, and its benefits for smart-grid development. Through system-wide communication networks AMI will link consumers and power utilities together and provide foundation for future distribution automation and other smart-grid functionalities. The system-wide measurement and visibility enabled by AMI will enhance the utilities' system operation and asset management process. It is recommended that the utilities should take advantage of AMI technology development and implementation to plan and build a common-integrated communication network and IT system in order to realize business transformation and to shape the power system towards a smart-grid.

Key words: advanced metering infrastructure (AMI); smart meter; wide area communication network; meter data management system (MDMS); home area network (HAN); smart-grid

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